

# PRECONCEPTION HEALTH IN MICHIGAN

## Fact Sheet: Introduction

### WHAT IS PRECONCEPTION HEALTH?

Preconception health is about women's health before becoming pregnant either for the first time or more than once. The goal of preconception health is to promote and assure a balanced combination of the best medical care, healthy behaviors, strong support, and safe environments. Reducing physical, emotional, mental and oral health risk factors and improving health during the reproductive age is a public health priority. Thus, poor birth outcomes and complications of mothers and infants can be avoided.<sup>1</sup>



### IMPORTANCE

By the time prenatal care begins, even if during the first trimester, it is often too late to prevent many unfavorable outcomes for mother and baby. Examples of unfavorable outcomes are as follows:

- Low birthweight (weight at birth less than 2,500 grams regardless of gestational age)
  - In 2008 8.5% of Michigan babies were born with low birthweight;<sup>2</sup>
- Preterm birth (infants born prior to 37 weeks gestation)
  - One in ten Michigan infants were born preterm (< 37 weeks gestation);<sup>2</sup>
- Infant mortality (death before 1 year of age per 1,000 births)
  - Michigan IMR is above the nation and nearly 3 times higher among Black infants (15.0) than White infants (5.5) in 2008.<sup>3</sup>

Historically, infant mortality has been used as the main indicator to assess the health status of a population. The causes of infant mortality are multifactorial, interrelated and vary by the age at death. Past efforts to improve birth outcomes have focused on prenatal health and neonatal care, resulting in some reduction of poor outcomes. Yet the rates of adverse events (such as infant mortality and premature birth) remain high, often with significant racial disparities and exceeding Healthy People 2010 objectives. Various studies and epidemiological analyses proved that the health of women prior to pregnancy is the key to improving maternal and infant health. The Centers for Disease Control and Prevention (CDC) in collaboration with other national partners published ten recommendations to improve preconception health.<sup>1</sup> However, implementing these recommendations requires accurate monitoring of preconception health in women of reproductive age, which can be accomplished by having well defined indicators. Several states including Michigan formed a national group that defined a list of indicators to be used for surveillance of health among women of reproductive age and for monitoring the effectiveness of interventions.<sup>4</sup>

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## RECOMMENDED INDICATORS

Each indicator was evaluated on five criteria: public health importance, policy/program importance, data availability, data quality, and the complexity of calculating the indicator. The group selected 45 indicators among preconception health domains (see inset) to be limited to women aged 18 to 44 years. Further, recognizing indicators are needed for men, younger and older women, the group concluded that these should be pursued in the future. The focus of this fact sheet series is the preconception health status of Michigan women based on these indicators using the recommended data sources.

### PRECONCEPTION HEALTH DOMAINS

- GENERAL HEALTH STATUS
- SOCIAL DETERMINANTS OF HEALTH
- HEALTH CARE
- REPRODUCTIVE HEALTH & FAMILY PLANNING
- TOBACCO, ALCOHOL, & SUBSTANCE USE
- NUTRITION & PHYSICAL ACTIVITY
- MENTAL HEALTH
- EMOTIONAL & SOCIAL SUPPORT
- CHRONIC CONDITIONS
- INFECTIONS

## DATA SOURCES

### **Michigan Behavioral Risk Factor Surveillance System (MiBRFSS).**

The MiBRFSS conducted by the Michigan Department of Community Health (MDCH) in cooperation with the CDC, collects information on health behaviors, preventative health practices and health care access among Michigan adults 18 years of age and older. A random digit dialing phone survey, the MiBRFSS provides timely and accurate data, despite being self-reported and subject to bias as behaviors may change over time and recall of events, health conditions and behaviors may diminish.

**Pregnancy Risk Assessment Monitoring System (PRAMS) for Michigan.** PRAMS is a joint collaboration between CDC and MDCH. A population-based survey of Michigan resident mothers who delivered a live infant, PRAMS is essential for monitoring maternal attitudes, experiences, health behaviors, health conditions and access to care before, during and after pregnancy. Data are self-reported two to six months after delivery and may be subject to reporting or recall bias, behaviors may change over time and the ability to recall preconception events, health and behaviors may decrease. However, the sampling methods used ensure findings can be applied to approximately 98% of the state's population of women who have delivered a live-born infant each year.

Both the MiBRFSS and PRAMS not only provide state-specific data for many preconception health indicators, but also allow comparison among different states.

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## ADDITIONAL DATA SOURCES

The Michigan Division for Vital Records & Health Statistics (MDCH-VR), the Michigan Disease Surveillance System (MDSS), and the Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS) are additional data sources. MDCH-VR collects and disseminates vital record data (including birth certificate data for the State of Michigan).

MDSS is a web-based communicable disease surveillance system developed for the State of Michigan. The CPS is conducted by the Census Bureau for the Bureau of Labor Statistics.

The ASEC provides estimates of poverty level rates.

## DEFINITIONS: RELIABILITY & VALIDITY

**Reliability** refers to the consistency of a measurement or to the degree that results from a repeated measure (under the same conditions) can be replicated.<sup>5</sup> It is the repeatability of a measurement. For example, a measure is considered reliable if a person's score on the same test given twice is quite similar. Lack of reliability can be due to differences between observers, methods of measurement or the instability of the indicator being measured. It is important to remember that reliability is not measured, it is estimate.

**Validity** is the strength of our conclusions. More formally, Cook and Campbell define it as the "best available approximation to the truth or falsity of a given inference, proposition or conclusion."<sup>6</sup>

- ⇒ If the estimate is close to the truth then the measure is valid and if there is little variation the estimate is also reliable.
- ⇒ Ideally the measure will be both valid (accurate) and reliable (precise).

Reliability and validity estimates based on previously published analysis<sup>7</sup> or estimates provided by the national preconception health indicator working group<sup>8</sup> or the project epidemiologist<sup>9</sup> are provided for each indicator.



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## HEALTHY PEOPLE 2020<sup>10</sup>

A federal interagency consortium, Healthy People 2020 (HP 2020) developed measurable objectives and goals that are applicable at the national, state, and local levels. Furthermore, HP 2020 identified overarching goals<sup>10</sup>

- ⇒ Attain high quality, longer lives free of preventable disease, disability, injury, and premature death.
- ⇒ Achieve health equity, eliminate disparities, and improve the health of all groups.
- ⇒ Create social and physical environments that promote good health for all.
- ⇒ Promote quality of life, healthy development and healthy behaviors across all life stages.

Wherever possible the indicators are compared to the applicable HP 2020 objective.

### AUTHORS

#### PRECONCEPTION HEALTH ASSESSMENT WORK GROUP

- VIOLANDA GRIGORESCU
- ROSE MARY ASMAN
- PAULETTE DOBYNES DUNBAR
- SYED HASAN
- JEANETTE LIGHTNING
- CHRIS FUSSMAN
- CRISTIN LARDER
- PATRICIA MCKANE

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Michigan Department  
of Community Health



Rick Snyder, Governor  
Olga Dazzo, Director